

REMARKS

In the Office Action, the Examiner rejected claims 1-91. All claims pending in the present application are believed to be in condition for allowance. In view of the following remarks, Applicants respectfully request reconsideration and allowance of all pending claims.

Claim Rejections under 35 U.S.C. § 103(a)

The Examiner rejected claims 1-6, 9-12, 16-27, 30-31, 34-39, 41-43, 47-52, 54, 56-59, 61-63, 65-69, 73-77, 79-80, 82-84, and 87-91 under 35 U.S.C. § 103(a) as obvious over Dekel et al. (U.S. Application No. 2003/0053096) in view of Englemann et al. (U.S. Patent No. 5,987,345). The Examiner rejected claims 7-8, 28-29, 44-45, and 71-72 under 35 U.S.C. § 103(a) over Dekel et al. in view of Englemann and in further view of Fredlund et al. (U.S. Patent No. 6,353,487). The Examiner rejected claims 13-15, 32-33, 46, 55, 64, 78, 81, and 86 under 35 U.S.C. § 103(a) over Dekel et al. in view of Englemann and in further view of Rothschild et al. (U.S. Application No. 2002/00197751).

Legal Precedent

First, the burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). The mere fact that references *can* be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d. 1430 (Fed. Cir. 1990). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of

reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985).

Second, the Examiner must provide *objective evidence*, rather than subjective belief and unknown authority, of the requisite motivation or suggestion to combine or modify the cited references. *In re Lee*, 61 U.S.P.Q.2d. 1430 (Fed. Cir. 2002). The Federal Circuit has made it clear that “[t]he factual inquiry whether to combine references must be thorough and searching.” *Id.* at 1433-34. Moreover, a statement that the proposed modification would have been ““well within the ordinary skill of the art”” based on individual knowledge of the claimed elements cannot be relied upon to establish a *prima facie* case of obviousness without some *objective reason to combine* the teachings of the references. *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993); *In re Kotzab*, 217 F.3d 1365, 1371, 55 U.S.P.Q.2d. 1313, 1318 (Fed. Cir. 2000); *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 U.S.P.Q.2d. 1161 (Fed. Cir. 1999).

Third, it is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 U.S.P.Q. 769, 779 (Fed. Cir. 1983); M.P.E.P. § 2145. Moreover, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (CCPA 1959); see M.P.E.P. § 2143.01.

Fourth, when prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988). One

cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). In other words, it is improper for the Examiner to use “that which the inventor taught against its teacher.” *W.L. Gore v. Garlock*, 220 U.S.P.Q. 303, 312-13 (Fed. Cir. 1983).

Claims 1-40

In making the 103(a) rejection against independent claims 1, the Examiner stated:

As to claims 1, 41, 59, Dekel et al disclose a method for processing images produced by medical diagnostic imaging systems, comprising: compressing at least one image of a plurality of temporally distinct medical images of desired physiological features (page 1, paragraph 0014); transmitting the plurality of temporally distinct medical images to a remote processing system via a network (fig.1).

Dekel et al does not expressly disclose generating an image from the plurality of temporally distinct medical images to highlight temporal differences of the desired physiological features between the image pair. Engelmann et al in a method for displaying medical images teach generating an image from the plurality of temporally distinct medical images to highlight temporal differences of the desired physiological features between the image pair (see claim 1 and Fig.8).

Dekel et al and Engelmann et al are combinable because they are from same field of endeavor of medical image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify Dekel et al with generating an image from the plurality of temporally distinct medical images to highlight temporal differences of the desired physiological features between the image pair as taught by Engelmann et al in order to

illustrate the difference in the condition of a patient over time (Column 3, line 65 through column 4, line 5 of Engelmann et al).

The suggestion/motivation for doing so would have been improve the diagnostic accuracy and consistency of radiologist's image interpretation and allow the radiologist to rapidly view the changes in condition of a patient (column 2, lines 1-5 of Engelmann et al.) Therefore, it would have been obvious to combine Engelmann et al with Dekel et al.

Page 2, line 16 – page 3, line 18. The Examiner used similar language in rejecting independent claim 26.

Deficiencies of Rejection

First, the proposed combination of the Dekel reference and the Engelmann reference cannot render claims 1-40 obvious under Section 103 because the Dekel reference and the Engelmann reference do not teach or suggest all of the elements recited in the claims. For example, independent claim 1 recites a “method for compressing at least one image of a plurality of temporally distinct medical images of desired physiological features.” Independent claim 26 recites a “method for temporal analysis of medical diagnostic images comprising...compressing a plurality of temporally distinct medical images of desired physiological features.” In contrast, the Dekel reference, which the Examiner relies on to disclose these features, discloses an imaging system that “*eliminates* the necessity to store a compressed version of the original image, by streaming ROI data using the original stored image.” Page 2, paragraph 14 (emphasis added). Unlike a traditional compression-based system in which image quality is lost during the compression process, the Dekel reference discloses a *lossless* image streaming system in which a smaller, *uncompressed* image is transmitted *instead of* larger compressed images. *See* Dekel, page 1, paragraph 14 and page 11, paragraph 190. *Id.* As such, the Dekel reference cannot disclose “compressing at least one image of a plurality of temporally distinct medical images of desired physiological features,” as

recited in claim 1. The Englemann reference cannot cure this deficiency in the Dekel reference, because the Englemann reference makes no reference to compressing images as recited in claims 1 and 26. In fact, the Englemann reference never even mentions the word compression. For this reason, it is clear that the Dekel and Englemann references, taken either alone or in combination, fail to teach or suggest the features of claims 1 or 26. As such, Applicants respectfully request allowance of independent claims 1 or 26 and the claims that depend therefrom.

Second, Applicants assert that the Examiner's proposed combination of the Dekel reference and the Englemann reference is improper because the Examiner has provided *no objective evidence* of a motivation to combine the Dekel reference and the Englemann reference. As stated above, in order to make a *prima facie* case of obviousness, the Examiner has the burden to provide *objective evidence* of the requisite motivation or suggestion to combine or modify the cited references. The Examiner's statement in the Office Action that "[t]he suggestion/motivation for doing so [combining] would have been [to] improve the diagnostic accuracy and consistency of radiologist's image interpretation and allow the radiologist to rapidly view the changes in condition of a patient" is an *unsupported conclusory statement*, which completely lacks objective evidence of a *reason to combine* the Dekel reference and the Englemann reference. Office Action, page 3, lines 14-17. The Examiner has not pointed to anything in either the Dekel reference or the Englemann reference that shows the desirability of *combining* the two references. For this reason, Applicants respectfully stress that the Examiner has failed to establish a *prima facie* case of obviousness.

Third, Applicants respectfully assert that the Examiner's proposed modification of the Dekel reference is improper because the Dekel reference teaches away from compression. As stated above, the Dekel reference discloses a system for streaming small sections of an image over a network to *avoid having to compress* and transmit the complete image. Page 2, paragraph 14. For this reason, it would be completely improper

to modify the system of the Dekel reference to include compression. In light of this, Applicants respectfully request withdrawal of the section 103(a) rejections against claims 1-40 based on these two references and allowance of these claims.

Claims 41-58

First, Applicants respectfully assert that the Examiner has not established a *prima facie* case of obviousness against independent claim 41, because the Examiner has not provided either an explanation or a citation to a reference regarding the features recited in claim 41. On the contrary, the Examiner seems to believe that an explanation of the section 103 rejection in regard to the features of claim 1 is sufficient to cover the features of claim 41. Applicants respectfully point out that claims 1 and 41 contain different limitations and have differing scopes. Applicants respectfully remind the Examiner that:

When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified.

37 C.F.R. § 1.104(c)2; see also M.P.E.P. § 707.07. As such, Applicants respectfully assert that the Examiner's rejection lacks the required specificity and that the Examiner has not met his burden to show that each limitation of claims 58-78 is found in the cited references. Applicants respectfully remind the Examiner of the Examiner's duties and obligations under 37 C.F.R. §1.104 and M.P.E.P. §707.07 and request that the Examiner clarify the rejection and specifically cite the presently rejected features in a future non-final office action.

Second, Applicants respectfully assert that the proposed combination of the Dekel reference and the Engelmann reference cannot render independent claim 41 obvious under Section 103, because the Dekel reference and the Engelmann reference do not teach

or suggest all of the elements recited in claim 41. Specifically, neither the Dekel reference nor the Englemann reference disclose “processing at least two images of the medical diagnostic images at the remote processing system to generate a temporal analysis image illustrating physiological differences between the at least two images,” as recited in claim 41. In contrast, because the system described in the Dekel reference does not disclose generating a temporal analysis image, it cannot disclose processing at least two images at the remote processing system to generate a temporal image analysis. The Englemann reference cannot cure this deficiency because the subtraction circuit 25 disclosed in the Englemann reference is *within the same computer system* as the image memory archive 10 (i.e., there is no *remote* processing system disclosed in the Englemann reference). *See* Fig. 1; col. 3, lines 18-35. As such, the Englemann reference cannot cure the deficiencies in the Dekel reference with regard to independent claim 41, and the Applicants respectfully request withdrawal of the pending rejections.

Third, as outline above in regard to claims 1 and 26, Applicants respectfully assert that the Examiner has failed to provide objective evidence of the requisite suggestion or motivation to combine the Dekel reference and Englemann reference. Further, a modification of the Dekel reference, as suggested by the Examiner, is improper because the Dekel reference actually teaches away from compression as further recited in claim 42. For each of these reasons, Applicants request the allowance of independent claim 41 and the claims that depend therefrom.

Claims 59-78

First, Applicants respectfully assert that the Examiner has not established a *prima facie* case of obviousness against independent claim 59, because the Examiner has not provided either an explanation or a citation to a reference regarding the features recited in claim 59. On the contrary, the Examiner seems to believe that an explanation of the section 103 rejection in regard to the features of claim 1 is sufficient to cover the features of claim 59. Applicants respectfully point out that claims 1 and 59 contain different

limitations and have differing scopes. As such, Applicants respectfully assert that the Examiner's rejection lacks the required specificity and that the Examiner has not met his burden to show that each limitation of claims 58-78 is found in the cited references. Applicants respectfully remind the Examiner of the Examiner's duties and obligations under 37 C.F.R. §1.104 and M.P.E.P. §707.07 and request that the Examiner clarify the rejection and specifically cite the presently rejected features in a future non-final office action.

Second, Applicants respectfully assert that the proposed combination of the Dekel reference and the Engelmann reference cannot render claims 59-78 obvious under Section 103, because the Dekel reference and the Engelmann reference do not teach or suggest all of the elements recited in claims 59-78. For example, independent claim 59 recites "an image compression module accessible by the uniform interface configured to compress at least one image of the plurality of medical images." In contrast, as stated above, the Dekel reference discloses a system that avoids the computational intensive task of transmitting a full image by streaming only a *non-compressed* sub-section of the full image. *See* Dekel, pages 1, paragraph 14. As such, the Dekel reference clearly cannot disclose compressing one image, much less compressing one image of plurality of medical images, as recited in claim 59. Next, as discussed above, the Englemann reference cannot cure this deficiency in the Dekel reference because the Englemann reference not only fails to disclose any form of compression, but never even uses the word "compression." Accordingly, the Dekel and Englemann references, taken alone or in combination, fail to teach or suggest the claim features of independent claim 59. For this reason, claims 59 and its dependent claims are believed to be allowable over the cited references.

Third, as outline above in regard to claim 1, Applicants respectfully assert that the Examiner has failed to provide objective evidence of the requisite suggestion or motivation to combine the Dekel reference and Englemann reference. Furthermore, a

modification of the Dekel reference, as suggested by the Examiner, is improper because the Dekel reference teaches away from compression. For each of these reasons, Applicants request the allowance of independent claim 59 and the claims that depend therefrom.

Claims 79-91

Applicants respectfully assert that the proposed combination of the Dekel reference and the Englemann reference cannot render claims 79-91 obvious under section 103 because the Dekel reference and the Englemann reference do not teach or suggest all of the elements recited in claims 79-91. For example, independent claim 79 recites “an applications server configured to execute temporal image analysis requests from *remote platform independent interfaces*. Because the system in the Dekel reference clearly does not perform temporal image analysis, the Dekel reference cannot disclose the features of independent claim 79. Similarly, while the Englemann reference does disclose a system for creating subtraction images, it cannot cure the deficiencies in the Dekel reference, because it does not disclose “an applications server configured to execute temporal image analysis requests *from remote platform independent interfaces*”, as recited in claim 79. Instead, the display system 12 in the Englemann reference executes subtraction routines in response to a user selecting (i.e., clicking on) a region of the display 14, which is a *part of the system 12 itself*. See Fig. 1; col. 3, lines 18-35. Obviously, the system 12 cannot be remote from *itself*. For this reason, it is clear that the Englemann reference cannot cure the deficiencies in the Dekel reference, and the rejections against claims 79-91 under 35 U.S.C. § 103 should be withdrawn.

Further, as outline above in regard to claims 1, 26, 41, and 59, Applicants respectfully assert that the Examiner has failed to establish a suggestion or motivation to combine the Dekel reference and Englemann reference. For each of these reasons, Applicants request the allowance of independent claim 79 and the claims that depend therefrom.

Claims 7-8, 28-29, 44-45, and 71-72

As stated above, the Examiner rejected claims 7-8, 28-29, 44-45, and 71-72 under 35 U.S.C. § 103(a) over the Dekel reference in view of the Englemann reference and in further view of the Fredlund reference. Applicants respectfully submit that claims 7-8, 28-29, 44-45, and 71-72 are allowable based on their dependencies on claims 1, 26, 41, and 59, and 65, because the Fredlund reference does not cure the deficiencies in the Dekel and Englemann references. For this reason, claims 7-8, 28-29, 44-45, and 71-72 are allowable for the reasons outlined above. Thus, Applicants respectfully request withdrawal of the rejection of claims 7-8, 28-29, 44-45, and 71-72.

Claims 13-15, 32-33, 46, 55, 64, 78, 81, and 86

As stated above, the Examiner rejected claims 13-15, 32-33, 46, 55, 64, 78, 81, and 86 under 35 U.S.C. § 103(a) over the Dekel reference in view of the Englemann reference and in further view of the Rothschild reference. Applicants respectfully submit that claims 13-15, 32-33, 46, 55, 64, 78, 81, and 86 are allowable based on their dependencies on claims 1, 26, 41, and 59, 65, and 79, because the Rothschild reference does not cure the deficiencies in the Dekel and Englemann references. For this reason, claims 13-15, 32-33, 46, 55, 64, 78, 81, and 86 are allowable for the reasons outlined above. Thus, Applicants respectfully request withdrawal of the rejection of claims 13-15, 32-33, 46, 55, 64, 78, 81, and 86.



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Conclusion

Applicants respectfully submit that all pending claims should be in condition for allowance. However, if the Examiner wishes to resolve any other issues by way of a telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

Date: November 24, 2004

A handwritten signature in black ink, appearing to read "Tait R. Swanson".

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